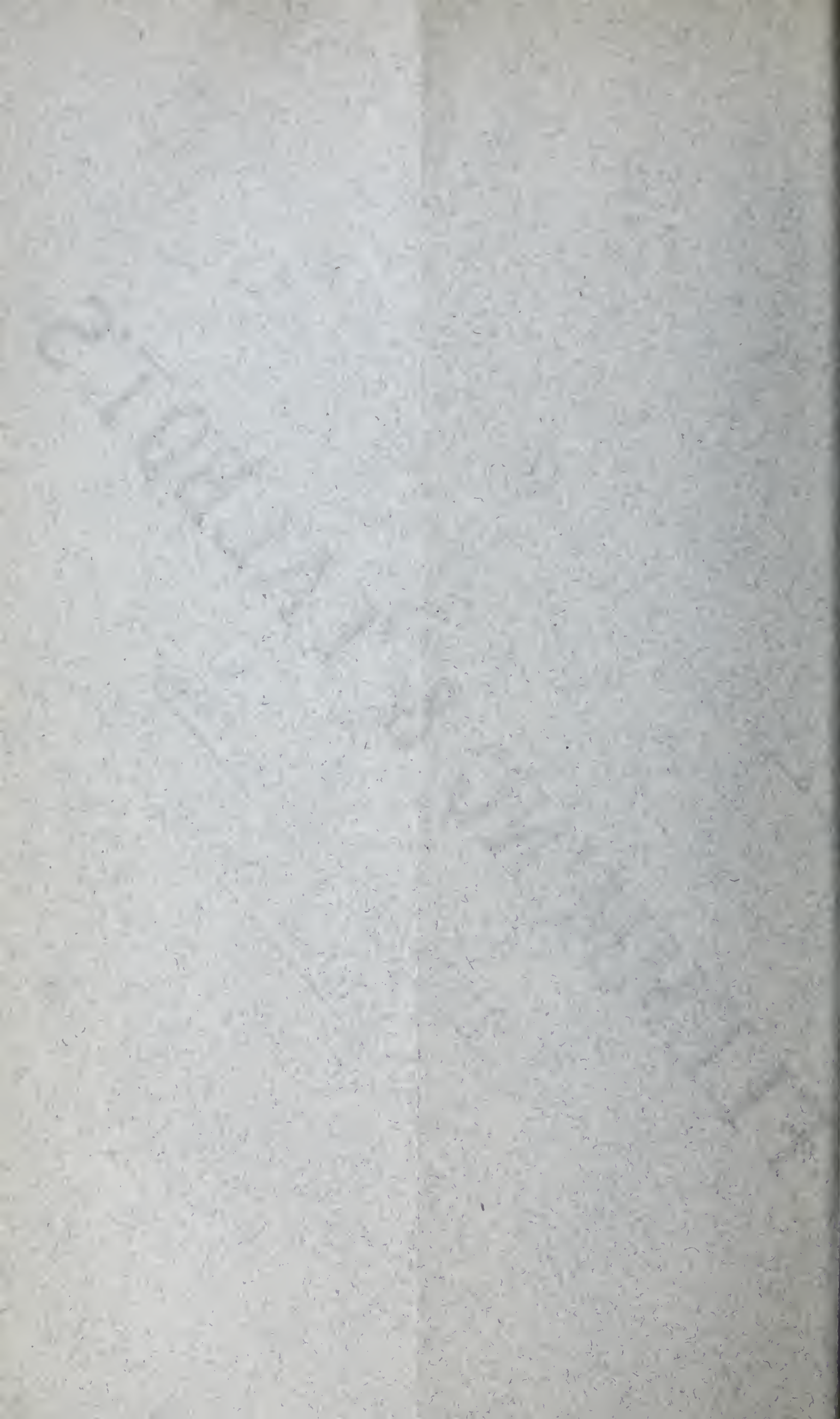


8

ILLUSTRATED CATALOGUE  
— OF —  
**FLEMMING & TALBOT'S**  
ELECTRO-MEDICAL BATTERIES  
AND INSTRUMENTS.



# FLEMMING & TALBOT,

— Manufacturers of —

## Electro-Medical Batteries and Instruments,

NO. 814 FILBERT STREET,

PHILADELPHIA, PA.

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### *To the Medical Profession :*

The value of Electricity in the practice of Medicine and Surgery is now so universally known and conceded, that it would be a work of supererogation to write a treatise upon the subject—to answer objections that are no longer raised, and to prove the rationality and possibility of what is already an accomplished and acknowledged fact. It is, therefore, as unnecessary to dwell upon this subject as it would be to dwell upon the therapeutic value of opium, quinine, or the anæsthetics. But, as there is a great diversity of opinion among the profession in regard to the administration of the latter, so there is as great a diversity of opinion in regard to the application of the former, but this difference of opinion in certain cases does not lessen the professional confidence in the value of the remedies in other cases where their benefit is unquestioned.

A certain physician in charge of a hospital was asked by us recently his opinion of Electricity in the treatment of disease. He replied that, while he did not deny but rather acknowledged its value in many cases, yet he did not use it in the hospital of which he had charge, and found that he could “get along” without it. “Yes,” we replied, “could you not ‘get along’ without quinine if you didn’t

have it?" "I suppose I would have to," he answered. "But don't you think it is necessary to relieve or cure many diseases uninfluenced by other remedies?" "I do, certainly," was his reply. And, in like manner, those physicians who, to show their independence of, and superiority to, recent improvements and discoveries "get along" without using Electricity in their practice might, with as much reason and consistency "get along" without using any one of the principal remedies that are now considered most essential in regular practice. But is he truly a "Physician"—one who zealously labors for the relief and cure of suffering and disease by whatever means the end is attained—who fails to avail himself of every remedy that may possibly tend toward the desired end, or who deliberately refuses to employ certain remedies which his professional brethren recommend, but which he, personally, has little faith in, and instead of giving his patient the benefit of the doubt, allows him to suffer on, perhaps through a life-time, under the old treatment, rather than try the effect of the new, which, if successful, would destroy his "theory" in the past and revolutionize his "practice" in the future.

That this feeling of prejudice against the use of Electricity still exists to a great degree among certain classes in the Profession is unfortunately too true. One class will not use it because, having followed the old theory and practice all their lives, they have become so wedded to them that any departure from the "good old school" is looked upon as a species of professional heresy, all new discoveries and improvements being regarded as quackish remedies and "new-fangled innovations" which they will "none of." Another class will not use it, not because they doubt its value, but simply because Electricity having been so generally employed in the past by quacks and other incompetents, it was brought into undeserved disfavor, and they fear that they might also be considered quacks if they should use it now. This feeling, however, is unjustified in fact. No branch of Medicine and Surgery has undergone greater changes and developments, nor accomplished more decided and brilliant results, during the past twenty-five years than

Galvano-Faradism and the practice of Electro-therapeutics and Galvano-cantery is now as far in advance of its practice in the past as is the practice of every other branch of Medical and Surgical Science.

It is an unhappy fact that Electricity was brought into disfavor in the past owing to its practice by ignorant, unscrupulous persons with no medical training whatever, who practiced Medical-Electricity as an easy means of making a living, without, however, obtaining the confidence or patronage of the general public, and also owing to the fact that the Batteries used in the past were rude in their construction, irregular in their working and disagreeable in their effects, so that the few who tried them were generally unpleasantly affected and prejudiced against not only the Batteries but against every one who pretended to be a "Medical Electrician." But Electro-Therapeutics being now taught as a regular study in all the principal Medical schools in the country, and the regular Profession now practicing it intelligently and scientifically, the popular confidence in it has been restored and increased as a knowledge of its benefits has extended, and now, so universal is that confidence in its application by the members of the regular Profession, that patients, obtaining little or no relief from the older remedies, will insist upon *trying* Electricity, and if their own physician does not apply it they will, as is frequently the case, go to some other physician who does. It thus becomes a matter of necessity in many cases for physicians to apply Electricity in order to save their reputation as well as their patients.

Probably the most serious objection to the more general use of Electricity in the past has been the fact, already noted, that the batteries then made were rude in their construction, troublesome in their management, irregular in their working and generally disagreeable in their effects upon the patient. Knowing this, many physicians would not use them at all, when they would gladly use more perfect ones if obtainable.

It is to supply this demand for improved apparatus—a demand increasing with the more advanced wants and requirements of the

present—that we offer our Batteries and Instruments to the Profession for their critical consideration. Employing only first-class graduated workmen, using only the best materials, personally supervising every piece of work done and sparing no labor or expense to have the completed Batteries as absolutely perfect as science, experience and workmanship can make them, we do not flatter ourselves in saying that in improvement of design, delicacy of adjustment, elegance of finish and general adaptability to all the wants of the Profession, our Batteries are not only not surpassed but are not equalled by any other Batteries, foreign or American, in the market, while in price they will compare quite as favorably. We invite the most critical inspection of our Batteries and comparison with those of any other make, confident that the verdict will justify all we claim for them.

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We need not call particular attention to any of our Batteries in this place, it being unnecessary to anticipate what we could only repeat in the descriptions on the following pages. We desire, however, to call attention to the exclusion of the small pocket Faradic Coil, No. 1, from the present Catalogue, and the introduction of a medium sized Faradic Battery in answer to many demands for the same, in consequence of which the size heretofore No. 2 is now No. 1, and the new medium size becomes No. 2.

The management of the Batteries so far from being troublesome and difficult to learn, as is generally supposed by those who have never used them, is really very simple, the whole being contained in a few paragraphs of instructions accompanying every Battery.

The prices given in this catalogue are *net* to physicians. We have received many letters from physicians asking what discount we allow them; as a general reply for the past and future we say—“No discount whatever.” Our business being almost exclusively with physicians, either directly or through agents, our prices are set for them accordingly. Did we wish to allow a discount we would set

our catalogue prices higher and then make an *apparent* concession by allowing a discount that would bring the prices to what they now are, but this is a *trick of trade* that we do not care about practicing. We set our prices at the lowest limit possible, and rely upon those low prices and the conceded superiority of our Batteries to effect their sale, without the extra inducement of a chromo or an equally delusive "discount" with every Battery sold. [REDACTED]

[REDACTED]  
[REDACTED])

In ordering please be particular to give the style and size of Battery desired, and give name, town, county, state, legibly and in full. Batteries not paid for in advance will be sent C. O. D., but by remitting with the order, physicians will save annoyance and the return express charges.

In conclusion, we have to say that our constant endeavor will be to merit a continuance of the universal favor with which our Batteries have already been received. The wants of the profession are our highest interest; we keenly appreciate the fact that our permanent success depends upon our supplying these wants fully and satisfactorily; and in that fact the Profession have the strongest guarantee that we will constantly study their wants in all things, keeping pace with the progress of the times, by making such continued improvements in our Batteries as are suggested by science and experience, and sparing no labor or expense in keeping them up to the highest standard of excellence in every respect.

Very truly, yours,

FLEMMING & TALBOT.

*Philadelphia, October 1st, 1877.*

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OTTO FLEMMING.  
JAMES J. TALBOT.

## FLEMMING &amp; TALBOT'S



## CABINET BATTERY.

(SEE NEXT PAGE.)

## CABINET BATTERY.

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This superb piece of mechanism and triumph of Electro-Medical Science contains all the latest improvements made in Electro-Medical Apparatus, and cannot fail to be appreciated as an unrivaled improvement in every respect over the rude and cumbersome foreign Batteries that have been imported into this country, because the purchasers could not at the time get anything better here. But, as is the case in almost every branch of trade, instead of importing foreign manufactures, we are now making and exporting superior articles in the same lines, and to-day American manufactures stand before the world unrivaled in improvement, finish and price—a fact quite as true of Electro-Medical Apparatus as of everything else.

The Key Board of the Cabinet contains, at the rear on the right, an Automatic Rheotome, for interrupting the Galvanic Current once, twice, four or eight times a second—in the centre, a Galvanoscope for showing the Electro-motive state of the Battery—and on the left a Wire Rheostat for introducing any desired resistance to the Current, the register on the face representing 2100 units, Siemen's resistance, enabling the operator to regulate the tension of the current from full power to the lowest degree, so as to be scarcely perceptible to the most sensitive nerve. In front of these are scales for bringing any number of cells of the Galvanic Battery into action, and on the left is a Water Rheostat for general use when the extreme delicacy of the Wire Rheostat is not required. In front is the Faradic Apparatus, provided with a slow and a rapid Interrupter and switches for connecting with the Primary or Secondary Current. The outer, Secondary, Coil of the apparatus is worked by a governing screw which regulates the tension of the two Currents. On the left front is a Commutator connected with both the Faradic and Galvanic Apparatus, by which the Polarity of the Electrodes is reversed or the Current interrupted by hand, and in front of this are the Binding Posts for receiving the Conducting Cords, which pass through the platform and come out of one of the drawers.

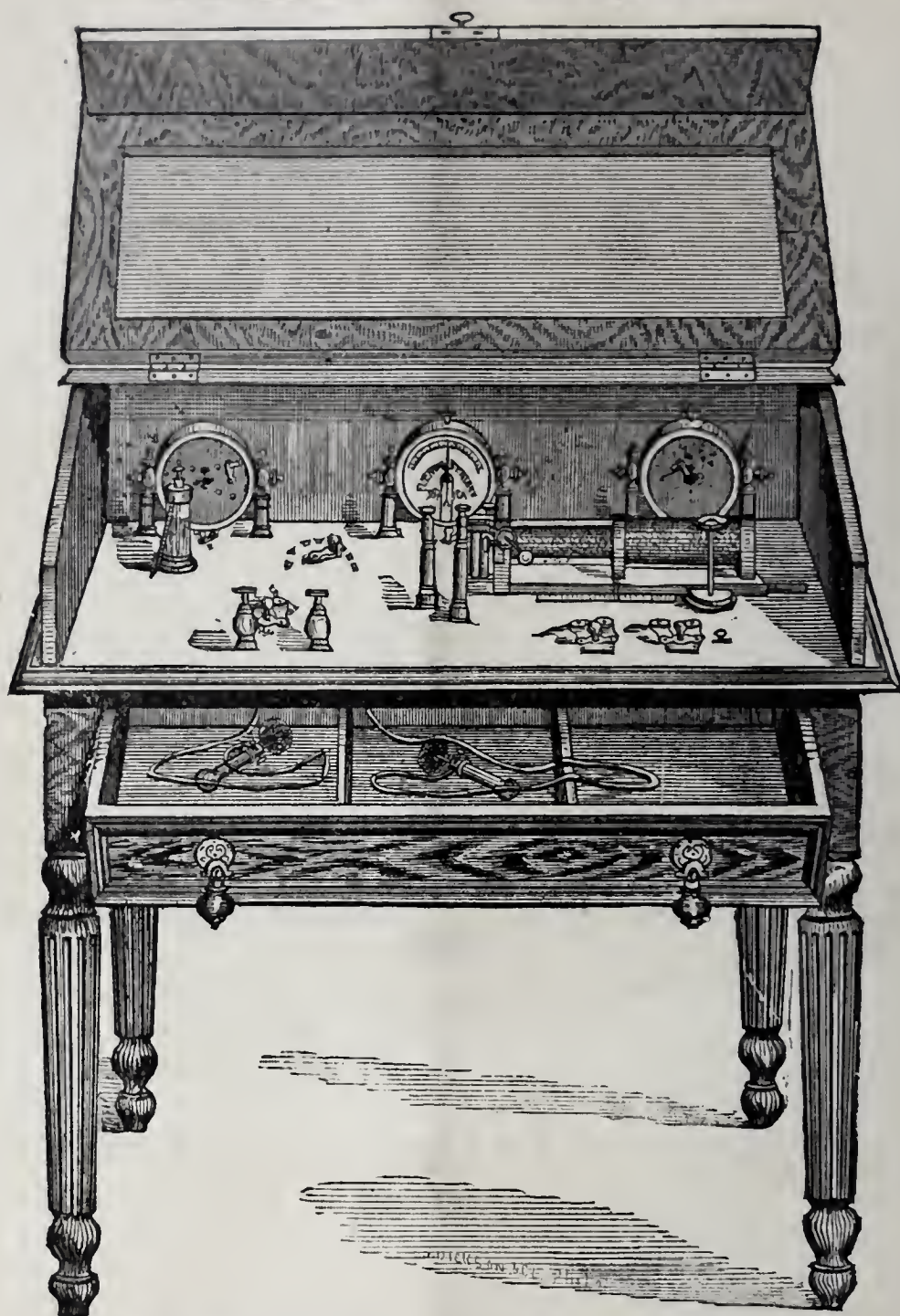
The zinc-carbon Battery, furnishing the Galvanic Current, is composed of sixty cells, arranged in six drawers, three on each side of the Cabinet. All the connections are of Platinum, and the only care the Battery requires is to add a little water occasionally to supply the evaporation, the elements requiring to be renewed only every two or three years.

A Grenet Cell in a closet in the lower back part of the Cabinet furnishes the motive power for the Faradic Apparatus. It is put in and taken out of action by means of a metal rod passing down behind the Galvanoscope.

All the apparatus on the Key Board are handsomely finished and the metallic work is finely nickel plated. The cabinet itself is made in the most substantial manner of the finest polished woods, elegantly carved and paneled. The whole is a magnificent addition to a physician's outfit—an article equally useful and ornamental in his office.

Price, . . . . . \$300.00

## FLEMMING &amp; TALBOT'S

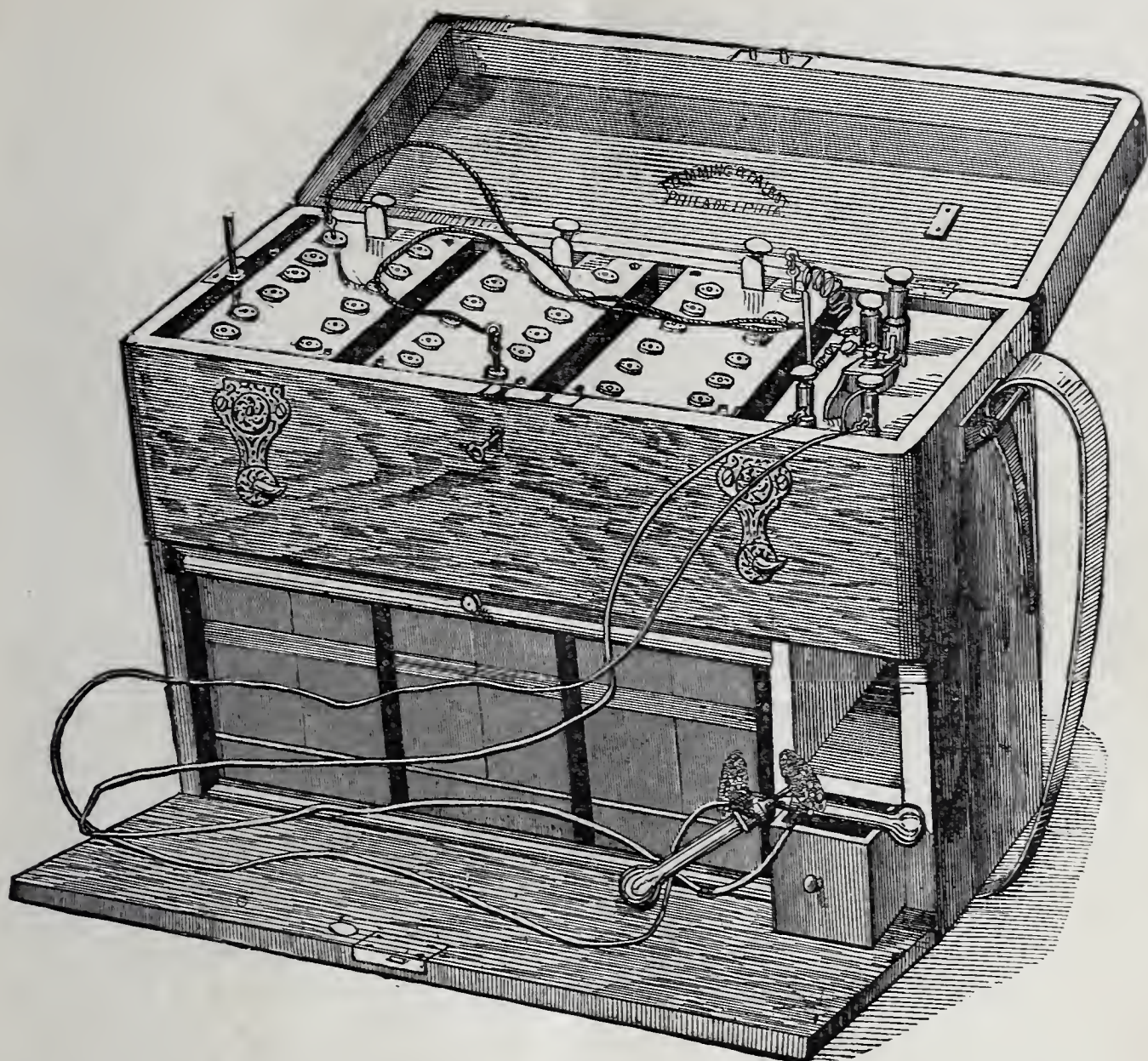


**PERMANENT OFFICE TABLE,  
For Physicians' Offices, Colleges, Hospitals, &c.**

The key Board of this table is the same in all respects as that of the Cabinet. The Battery (either 60 or 100 cells,) accompanying the Table, is placed in the cellar or some suitable closet and is connected with the Table by insulated conducting wires. We furnish for this Battery the Callaud Blue Stone Cell, (copper and zinc,) which is easy to take care of and very constant in its action; the only care it requires is to add a little water occasionally, and drop a few crystals of Blue Stone in every cell once in six months, the zinc plates being renewed only every two years. For general practice this may be preferred by some instead of the Cabinet, as the Table Battery produces a little more *quantity* of Electricity than the Cabinet Battery, but the latter can be moved at pleasure, while the former must remain permanent.

The table is made of the best black walnut, with carved legs, is highly polished and like the Cabinet, is an elegant piece of furniture for a physician's office.

Price, with 60 Cells,	.	\$200.00
“ “ 100 “	. .	250.00



## NEW IMPROVED PORTABLE CONSTANT GALVANIC CURRENT BATTERY.

This form of Battery is now acknowledged to be the most perfect ever offered to the Profession, overcoming, as it does, all the objections that have heretofore been so justly urged against all the older forms. The different sizes—ranging from 10 to 60 cells—are so made in sections of ten cells each that any one section or any number of sections can be used independently of the others or all used together. If the operator desires to use the current of only a small number of cells, he need put but a single section in action, thus saving the zinc and fluid of the rest; or if any accident should happen to a part, it affects only the section it is in and not, as in all other forms, the whole Battery. The elements are zinc and carbon, the fluid Bi-chromate of Potassium and the cells hard rubber, which is lighter and more durable than glass. The Battery is put into action by raising the sections of cells by rods at the back, these rods being so regulated by springs that the elements can be immersed to any desired depth, thus regulating the *quantity* of electricity evolved at pleasure. Covering the cells when not in action is a Hydrostat, or rubber cushioned sliding board, which by means of two small rods on either end, is pressed down tightly upon them when the lid is closed, thus preventing the

fluid from spilling while being transported or if by accident the Battery should be upset. Unlike all other Batteries, the cells in this can be taken out in front for recharging, obviating the trouble and the risk of breakage in removing the elements on top. Connected with the binding posts for receiving the Electrode cords is a Commutator for reversing the Polarity of the Electrodes or for interrupting the current by hand. On special orders, we attach a Galvanoscope, for measuring the strength of the current, or an Automatic Rheotome, for interrupting the current once, twice, four or eight times a second.

The walnut cases for these Batteries are made in our own establishment under our personal supervision, of the best material and in the most substantial manner, and we guarantee that with ordinary care they will last a life time. The cases are highly polished and all metallic work is finely nickel plated, the whole apparatus being as complete and elegant a piece of workmanship as it is possible to get up.

Of the different sizes the 10 and 20 Cell Batteries are chiefly for Eye and Ear specialists or private family use, the 30 Cell for physicians general practice and the 40 and 60 Cell for Hospital or permanent office use, though the two last can be easily transported if desired.

Price, 10 Cell Battery	.	.	.	\$ 25.00
“ 20 “ “	.	.	.	45.00
“ 30 “ “	.	.	.	65.00
“ 40 “ “	.	.	.	80.00
“ 60 “ “	.	.	.	100.00
Galvanoscope,	.	.	.	5.00
Automatic Rheotome,	.	.	.	10.00

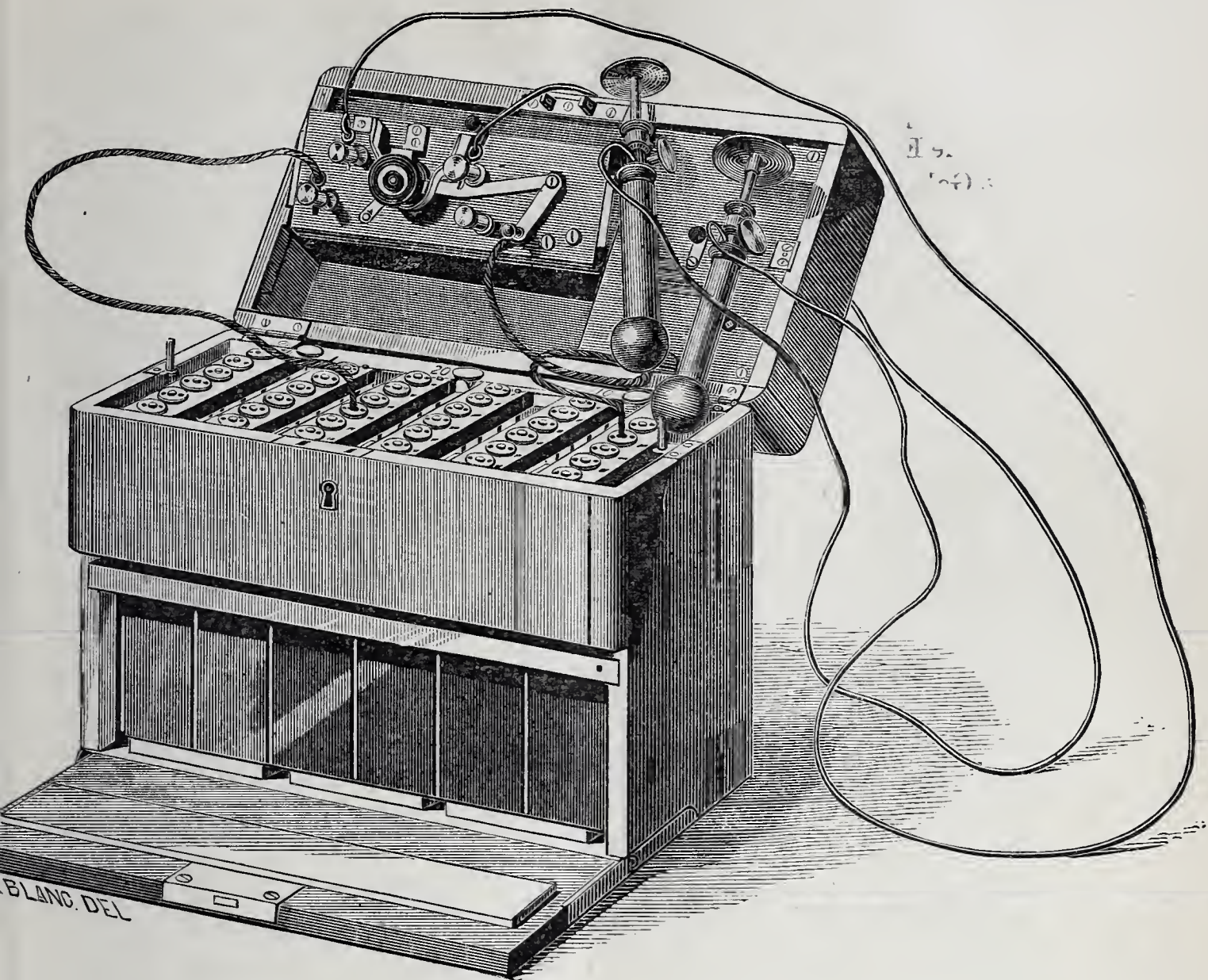
## SMALL PORTABLE, CONSTANT GALVANIC CURRENT BATTERY.

The principle of construction of this Battery is the same as that of the preceding, the only material difference being that the cells and plates of this size are one-third smaller than those of the larger size. This makes it lighter and more convenient for portable purposes. It is sufficiently powerful for all Electrolytic operations, as is the larger size of 20 or more cells.

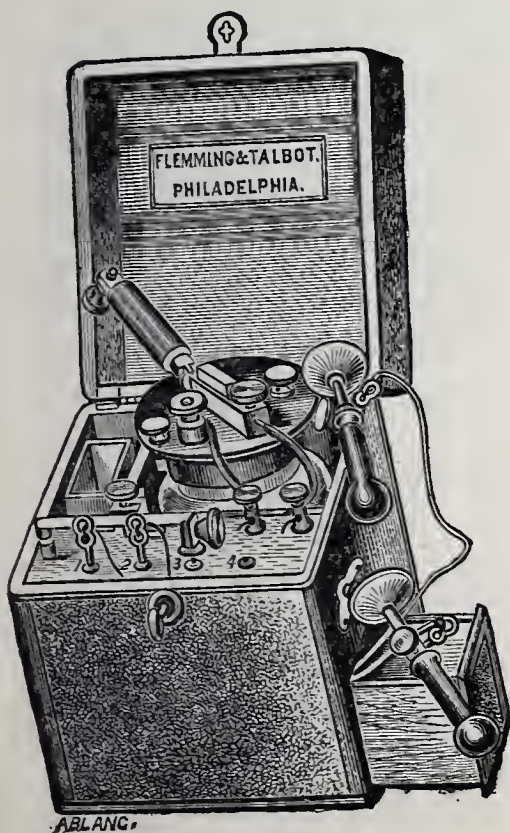
We make only one size—30 cells—of this Battery, which is as complete in its construction and finish as the preceding one.

Price,	.	.	.	.	\$55.00
Galvanoscope,	.	.	.	.	5.00
Automatic Rheotome,	.	.	.	.	10.00

(Cut on next page.)



## No. 1 FARADIC BATTERY.



This Battery is intended chiefly for the use of physicians in making their daily visits for purposes of diagnosis or in treating simple cases where the Faradic Current is required. For private family use it will be found especially valuable, being simple, convenient and available in all cases where self treatment is admissible. It is in a neat morocco case 6x6x7½ inches, and weighs, when charged, only five pounds.

Price, . . . \$15.00

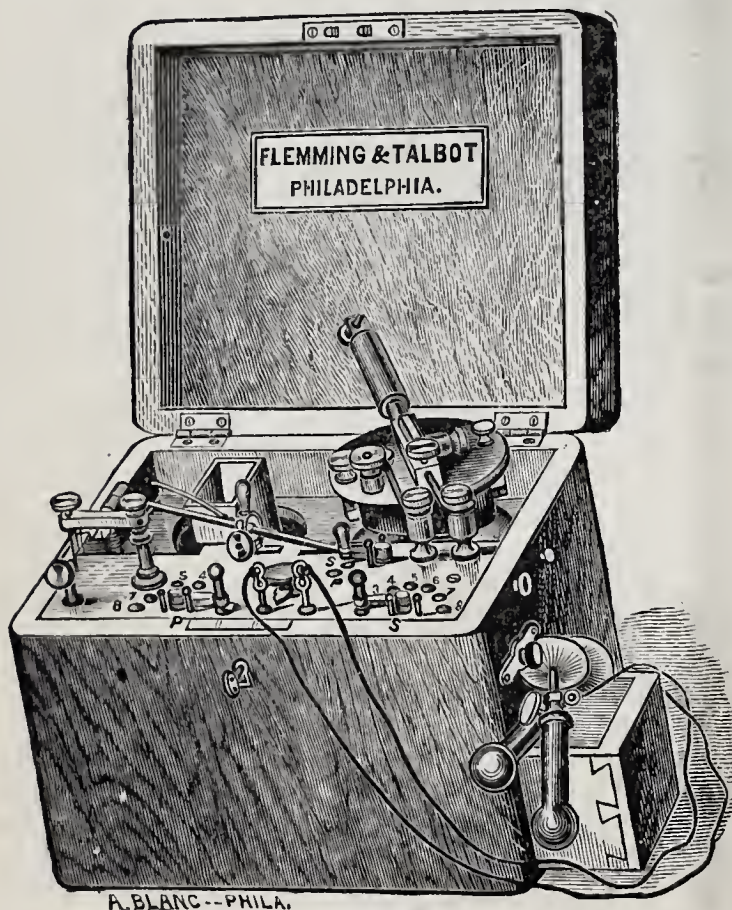
## No 2 FARADIC BATTERY.

A little larger and more powerful than No. 1, and with the addition of a Commutator for reversing the Polarity of the Electrodes. Its Primary and Secondary Coils are sufficiently powerful for treating nearly all cases in which the Faradic Current is required, but for a physician in general practice who requires a Battery for use in the more difficult as well as the simpler cases, we would of course recommend the more complete and more powerful No. 3 Battery, Put up in polished walnut case, 7 inches square, metallic work nickel plated.

Price, . . . \$20.00



## No. 3 FARADIC BATTERY.



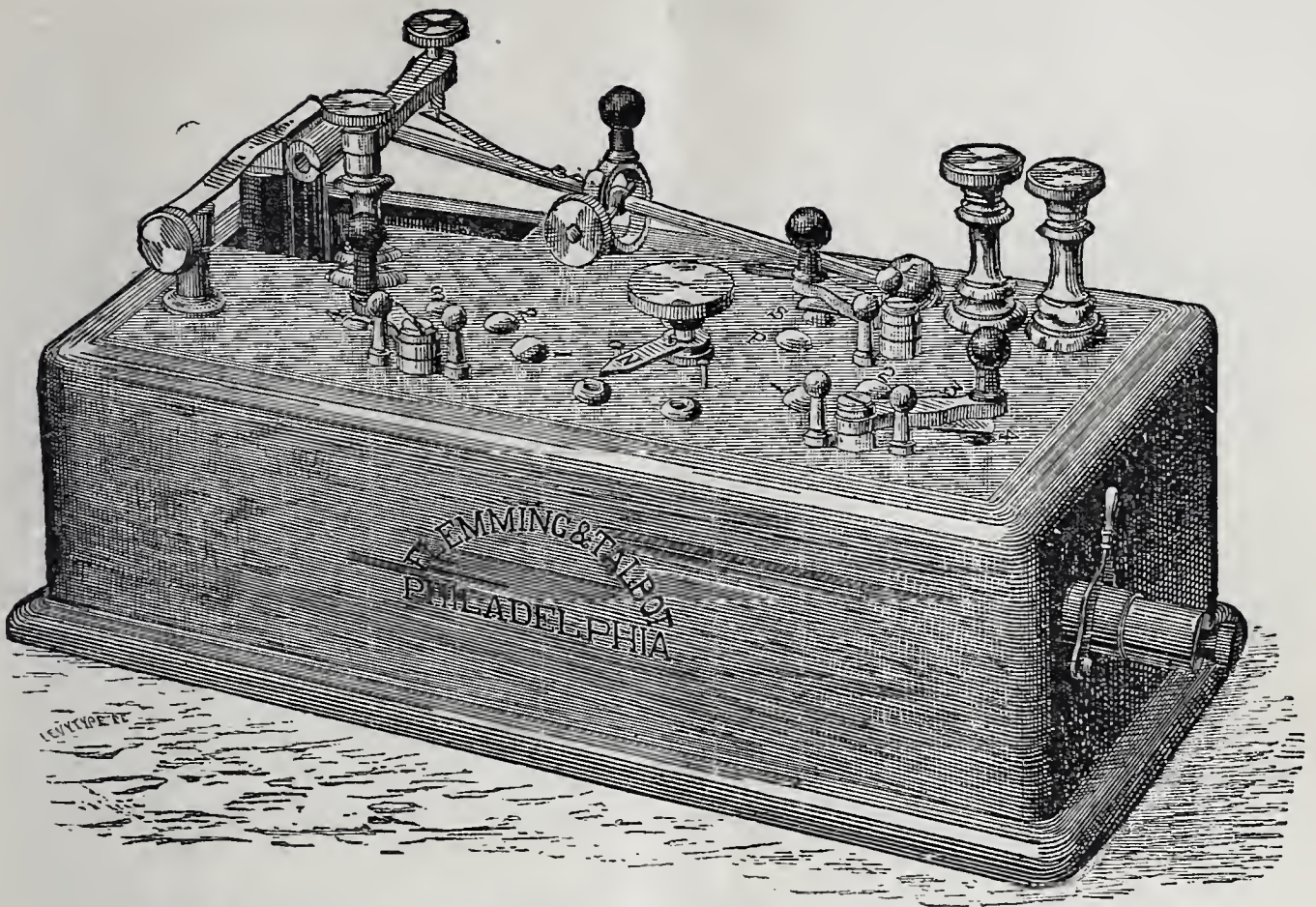
This is the finest and most complete Faradic Battery ever manufactured. It is provided with a slow and a rapid Rheotome, or current interrupter—a Commutator, or Polarity changer—scales by which the Primary and Secondary Currents may be graduated to the utmost delicacy or greatest power—and with our new patent galvanic cell. This cell (which is attached to the two smaller sizes also), is so made that when not in action the zinc is raised out of it altogether, and the aperture through which it passes covered with a rubber Hydrostat, making the cell perfectly fluid tight, and saving both the zinc and fluid from the effects of splashing in transportation or of immersion in case of an upset. By this plan also, the cell can be filled to the top and the zinc be made twice the

usual length, thus producing a stronger current and lasting a longer time.

The special advantages of this Battery are: First, its great power; we believe it to be the most powerful Faradic Battery made. Second, its slow interrupter; by this the interruptions can be made as slow as once a second, which is of inestimable value in certain muscular affections where very slow interruptions will produce decided contractions when rapid interruptions would produce little or no effect whatever. Third, the scales bringing any desired length of the Coils into action, regulating by them and the tube the *intensity* in the most infinite degrees possible. The *quantity* can also be varied by immersing the zinc to any desired depth by means of the moveable clamp securing it. Fourth, the very great advantages of its cell, more fully described on page 15.

The Battery is put up in a handsome walnut case,  $7\frac{1}{4} \times 7\frac{1}{2}$  and  $8\frac{1}{2}$  inches, has all its metallic parts finely nickel plated and weighs when charged ten pounds.

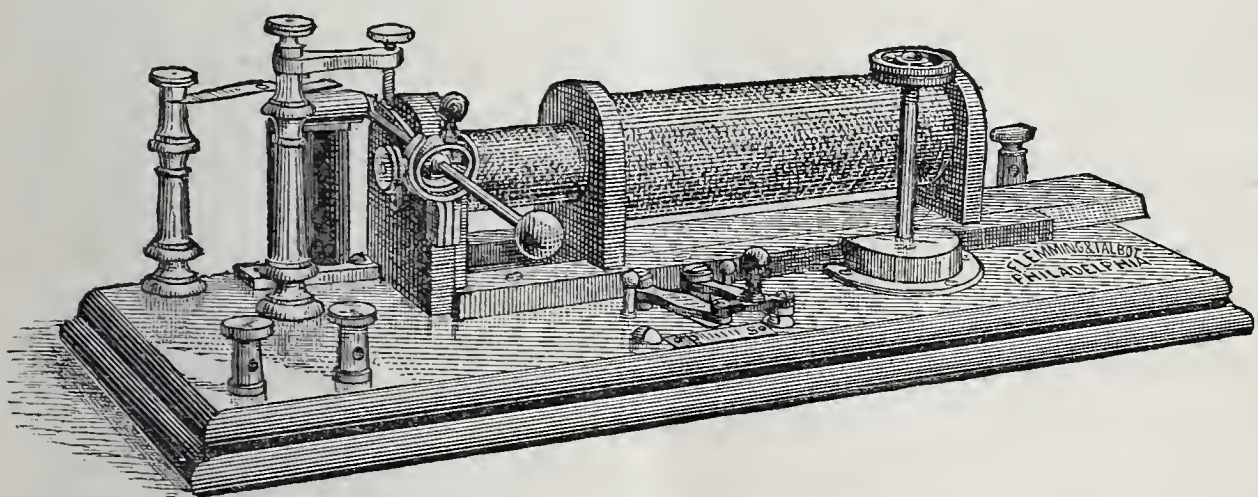
Price, . . . . . \$30.00



## FARADIC APPARATUS FOR OFFICE TABLE

The construction of this is the same as that of No. 3 Faradic Apparatus, (cut giving an enlarged view of the platform of the latter,) and is intended for office use when the ordinary form of case Battery is not desired. It is connected with a cell under the table or any out of the way place.

Price, . . . . . \$25.00



## IMPROVED DU BOIS-REYMOND COIL.

This coil is provided with slow and rapid interrupters, with switch for making connections with the primary and secondary current and with governing screw for regulating the tension of the current. Like the preceding it is connected with a cell under the table or elsewhere. The platform, 5x15 inches, is of polished walnut and the metallic parts are nickel plated. A neat and convenient instrument for office use.

Price, . . . . . \$30.00

It is preferable to work these two instruments by Grenet cell, which is best adapted for such a purpose.

## KEY BOARD FOR GALVANIC BATTERY.



Is provided with a Current Selector for bringing any number of cells into action, and a Commutator, for reversing the Polarity of the Electrodes or for interrupting the current. It is intended chiefly for bath room use, though it may be used in the office instead of the Permanent Table where the complete Table is not desired. When used in connection with the bath, it is screwed to the wall over the tub, this convenient position enabling the operator to apply and regulate the current at pleasure while treating the patient. The Battery (any

number of Cells from 10 to 100) is placed in a closet in the room or in the cellar. Where one of our Office Tables is already in use, the conducting wires of the Key Board can be connected with the Table Battery, which will work both apparatus.

Price, . . . . . \$25.00  
 " of Cells, by the quantity, each, 1.25

## AUTOMATIC RHEOTOME.

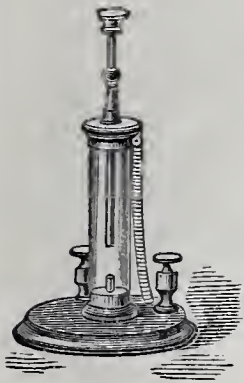
For interrupting the constant current once, twice four and eight times a second. It can be attached to any form of Galvanic Battery.



Price, . . . . . \$12.00

## WATER RHEOSTAT.

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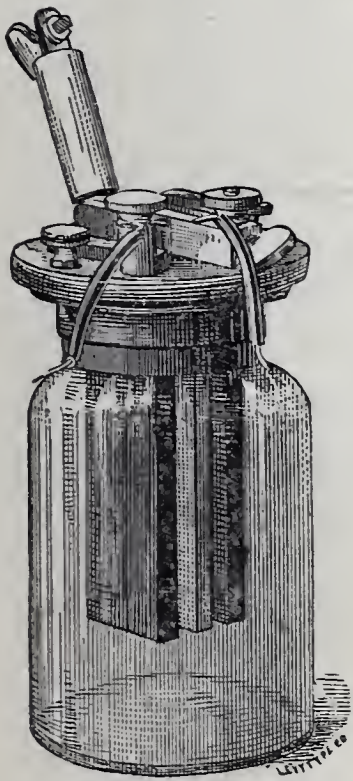
For diminishing the intensity of a Current. By regulating the central brass rod, the Current has to pass through a greater or less volume of water in the glass tube, and the resistance to the Current can thus be increased or diminished at will. This is of great value in treating delicate cases, or where there is extreme susceptibility to the Current. It can be used with either Galvanic or Faradic Apparatus.

Price, . . . . . \$5.00

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## CELL FOR FARADIC BATTERY.

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The elements of this Cell are zinc and carbon and the solution Bi-chromate of Potassium. Its advantages over the older forms are its saving of trouble and expense and its safety for portable purposes. As stated in the description of the No. 3 Faradic Battery, the Cell is so made that when it is not in action the zinc is raised out of it altogether and the aperture through which it passes covered by a rubber Hydrostat screwed down upon it, making the Cell absolutely fluid tight, thus saving both the zinc and the fluid from the effects of splashing in transportation (the zinc not being in the Cell to act or to be acted upon,) and preventing the spilling of the fluid in case of an upset. By this plan also, the Cell can be filled nearly to the top, instead of only half way as in older forms, and the zinc be made twice the usual length, thus producing a stronger current and lasting a longer time. The zinc plate when removed from the Battery is placed in a vulcanite cell accompanying it. By keeping half an ounce of Mercury in the latter the zinc will always be kept well amalgamated and in

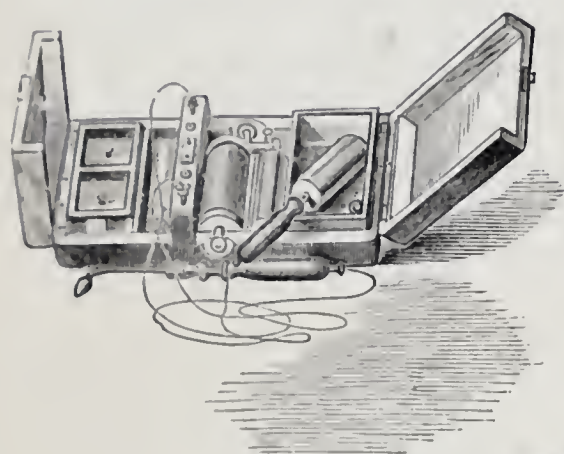
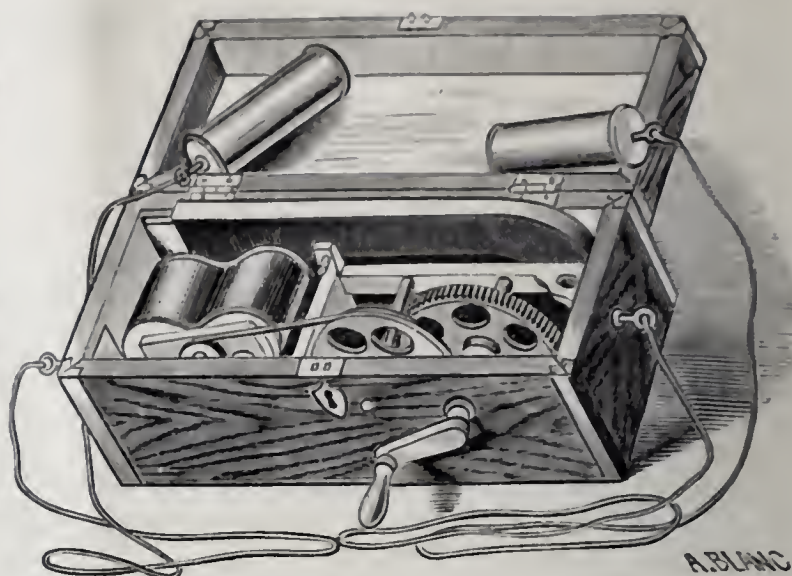
good working order, relieving the owner of the trouble of amalgamating it, or of the annoyance resulting from his neglect to do so. This Cell can be attached to any form of Electro-Magnetic Battery in use.

Price . . . . . \$3.00

## MAGNETO-ELECTRIC MACHINE.

Davis & Kidder's Magneto-Electric Machine requires no fluid and is operated by turning a crank.

Price, . \$10.00



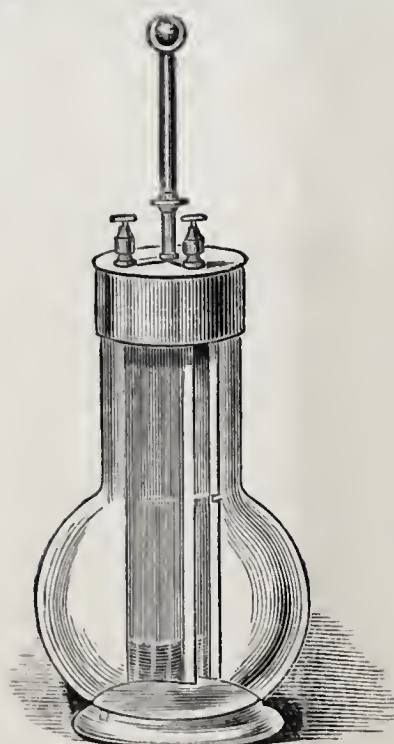
## GAIFFE BATTERY.

Gaiffe's Pocket Faradic Battery, charged with Bisulphate Mercury.

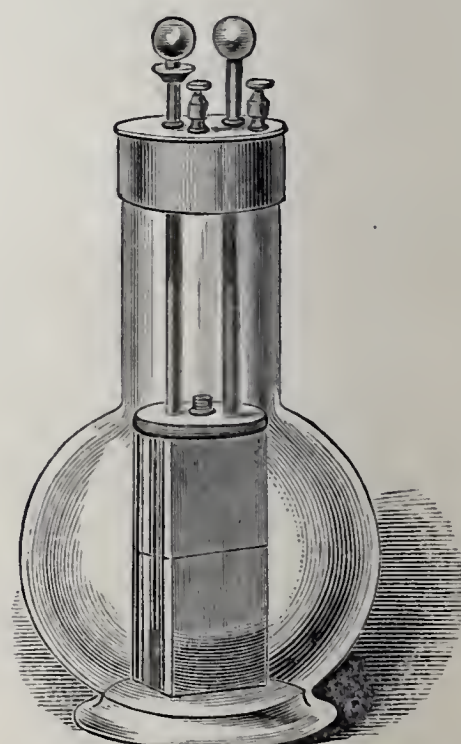
Price, . . \$12.00



No. 1.



No. 3.



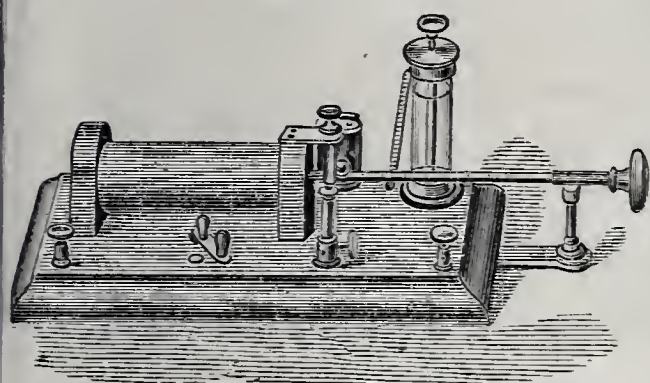
No. 4.

## THE GRENET CELL.

This cell is especially adapted for experimental purposes and for working Electro-Medical Instruments, Induction Coils, &c. It furnishes an immense quantity of current, and can be put in and taken out of action instantly by simply lowering and raising the central brass rod to which the zinc is attached. The elements are Carbon and Zinc, and the fluid Bichromate of Potassium.

Price, No. 1,	.	.	.	.	\$2.50
" " 2,	.	.	.	.	4.00
" " 3,	.	.	.	.	6.00
" " 4,	.	.	.	.	8.00

## DENTAL HELIX.



Dr. Flagg's Dental Helix, for the relief of pain in extracting teeth, is coming into universal use, and no physician can now afford to be without one.

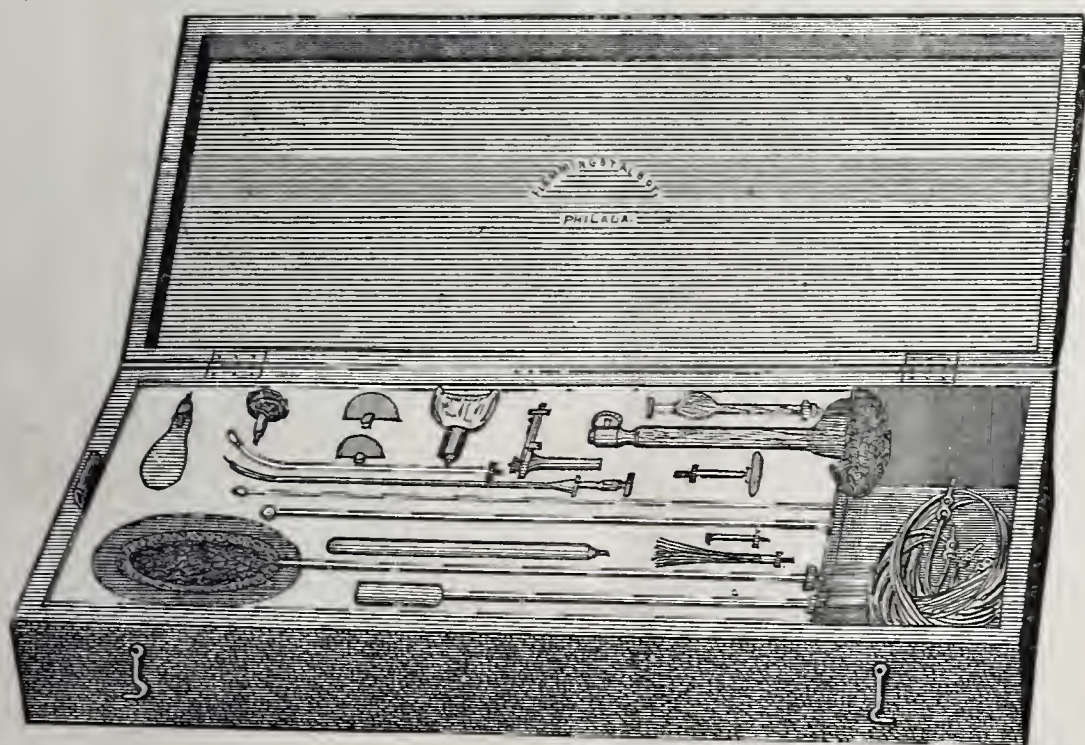
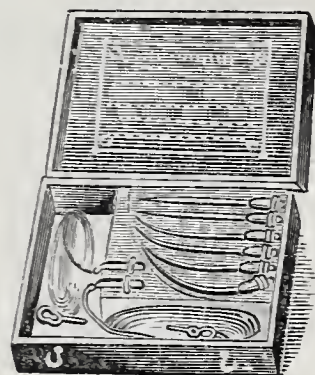
Price, without Cell, . \$18.00

## ELECTROLYTIC NEEDLES.

Case containing six Electrolytic Needles, gilt points, straight and curved, with conducting cords.

Price, . . . . \$7.00

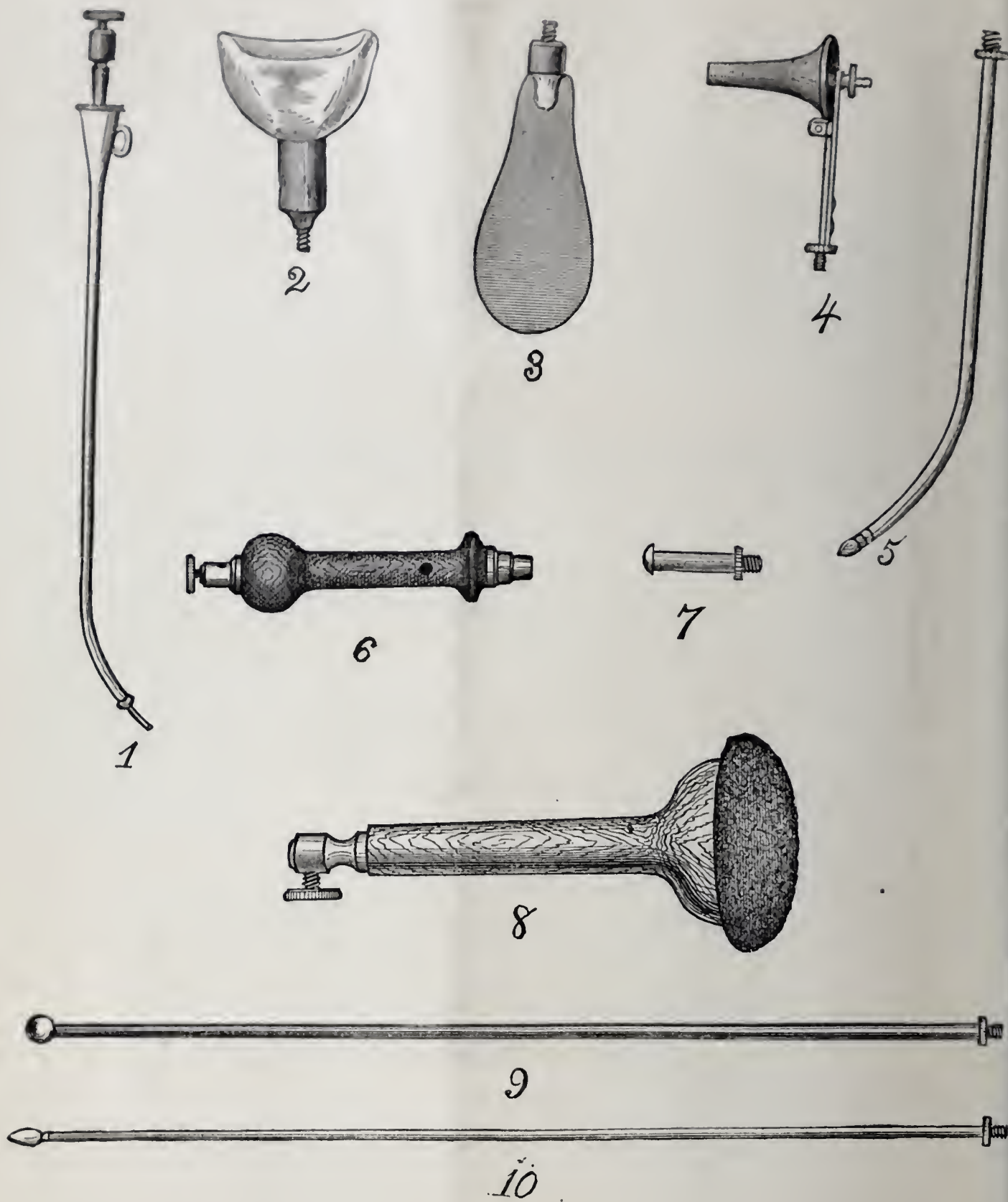
Single Needle, . . . . 1.25



## ELECTRODES.

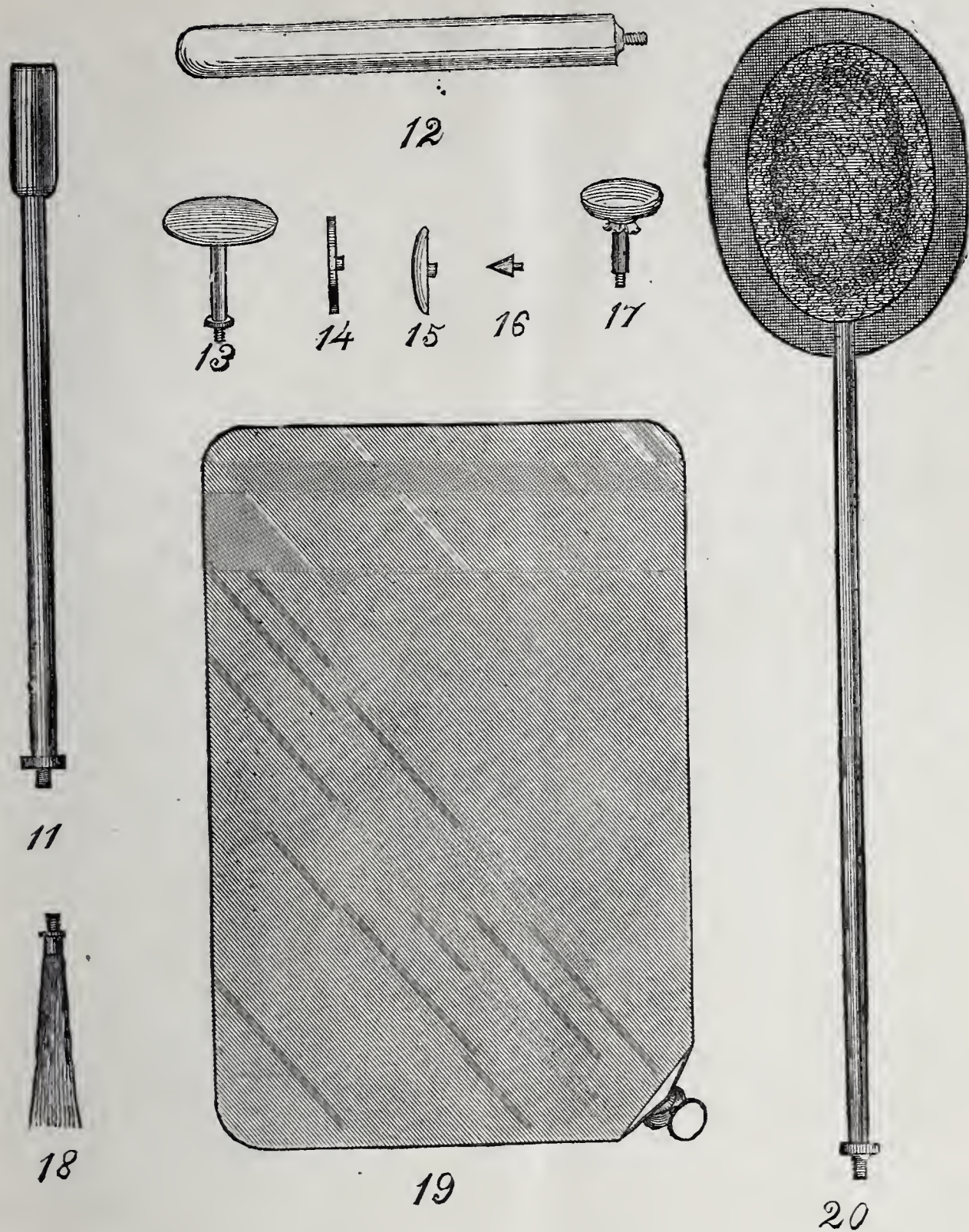
The Electrodes in this case will be found illustrated and named on the following pages.

Case, containing 20 Electrodes and conducting cords, \$20.00



1. Laryngeal (Dr. Strawbridge's Eustachian Tube) Electrode,	.	.	.	\$2.00
2. Eye,	"	.	.	2.00
3. Tongue,	"	.	.	.75
4. Ear,	"	.	.	2.00
5. Nasal,	"	.	.	1.50
6. Interrupting Handle,	.	.	.	1.50
7. For special Nerves,	.	.	.	.75
8. Large Sponge,	Electrode,	.	.	1.00
9. Uterine and Rectum,	"	.	.	1.25
10. Urethral,	"	.	.	1.25

19



1. Cup-shaped for Mouth of Womb,	\$1.50
12. Vaginal Electrode	1.50
13. Sympathetic Nerve Electrode	1.00
14. 15 and 16, Disks Olives, Points, &c.	.75
17. Carbon Electrode	1.00
18. Wire Brush	.75
19. Foot-Plate	.75
20. Spinal	1.50

These include only the ordinary forms of Electrodes in general use. Special shapes and sizes will be made to order in 24 or 48 hours upon receipt of drawings or description of the kind desired.

## ELECTRO-MEDICAL SUPPLIES.

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Zinc, Carbon, Platinum, Platinized Silver, Glass and Rubber Cells, Battery and Amalgamating Fluid, Plain and Insulated Wires, Acid, Mercury, Magnets and all Chemicals and Materials for experiment or use in Electro-Therapeutics and—Physics.

Cells for Portable C. C. Battery, glass, . . . . .	each,	.25
“ “ “ “ “ “ rubber, . . . . .	“	.50
Zinc Plates, “ “ . . . . .	“	.15
“ “ Faradic “ . . . . .	“	.30
Carbon Plates, Faradic and C. C. . . . .	“	.25
Conducting Cords, silk covered, . . . . .	per yard,	.25
“ “ “ “ . . . . .	“ pair,	.75
Electrode Handles, walnut, . . . . .	“ “	.75
Tin Tube “ . . . . .	“ “	.50
Disk Electrodes, sponge covered, . . . . .	“ “	.75
Battery Fluid, Bi-chromate Potassium, . . . . .	“ lb.	.10
Amalgamating Fluid, . . . . .	“ “	.25
Blue Stone Battery Cells, . . . . .	each,	1.50
“ “ “ “ for one dozen or more, . . . . .	“	1.25

These cells may be used for working all kinds of electrical apparatus, where it is desirable to have the greatest constancy of action with the least amount of care.

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The following Electro-Medical Works will be sent by mail, postpaid on receipt of price.

Fieber on the Treatment of Nervous Diseases with Electricity, . . . . .	.75
Reynolds' Clinical Uses of Electricity, . . . . .	1.00
Prince's Galvano-Therapeutics, . . . . .	1.25
Tibbit's Hand-Book of Medical Electricity, . . . . .	1.50
Nestel's Galvano-Therapeutics, . . . . .	1.50
Lincoln's Electro-Therapeutics, . . . . .	1.50
Hamilton's Clinical Electro-Therapeutics, . . . . .	2.00
Meyers' Electricity in Practical Medicine, . . . . .	4.50
Althaus' Medical Electricity. 3d enlarged edition. Cloth. . . . .	6.00
Beard and Rockwell's Medical Electricity, . . . . .	6.25
Morgan's Electro-Physiology, . . . . .	6.50

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## TESTIMONIALS.

We do not deem it necessary to give a list, or publish the testimonials, of physicians in all parts of the country who have used our Batteries and learned from practical experience that they are all they are represented to be. To parties who desire such testimony, we shall be most happy to furnish a list of physicians in their vicinity who have our Batteries in use and who will be pleased to testify to their completeness and effectiveness.

# DIRECTIONS.

## **For Making the Battery Fluid.**

Dissolve an ounce of Bi-chromate of Potassium in eighteen ounces of hot water; when cold, add two ounces of Sulphuric Acid. When this mixture is cool it is ready for use.

## **For making the Amalgamating Solution.**

Mix one pound Nitric with two pounds Muriatic Acid, to which add eight ounces of Mercury. When the Mercury is dissolved add three pounds more Muriatic Acid.

To Amalgamate the Zinc, immerse it in the solution for one or two seconds, then remove it quickly to a basin of clean water and rub it with a brush or cloth, when it will be found covered with a fine, even coat of mercury. The solution should be kept in a covered vessel and may be used many times.

## **For taking care of a Battery.**

The first requirement for the effective working of a Battery is the most perfect cleanliness of all its parts. For this reason the greatest care should be exercised to keep all the metallic parts especially free from dust, dirt and oxydation.

After using a Battery, always take the Zinc out of the fluid, if a Faradic, or lower the cells if a Galvanic, Battery. The fluid and Zinc are acted upon only when in contact, and by keeping them out of contact when not in use will last very much longer.

The Zinc should be kept well amalgamated. As previously explained, the Zinc of our Faradic Battery is kept mechanically amalgamated by the Mercury in the vulcanite cell. To amalgamate the Zinc plates of one of our Galvanic Batteries, unscrew the sections, take them out of the case, and amalgamate one section at a time, according to preceding directions. (The carbon plates will not be affected by immersion in amalgamating solution). Zinc plates need to be amalgamated when they become covered with a dark, soft "oxydation," and should be amalgamated more frequently when new than when old, when they become thoroughly impregnated with Mercury.

The Battery fluid grows weaker with use, and when "decomposed," i. e. when it becomes greenish-black, it should be emptied out and new fluid supplied. When the current becomes weak it is an indication that the fluid needs to be renewed or the Zinc re-amalgamated.

The electrodes should be covered with sponge, punk, flannel, cotton or chamois skin, and must be thoroughly wet before applying. It is advisable to let them dry if possible before putting them back in the drawer, as the evaporation from them is apt to swell the wood.

### For the Application of Electricity.

In applying the current *always* begin with a low degree of intensity, increasing it slowly until the required power is obtained by the patient feeling it perceptibly but not painfully. Disagreeable shocks are never to be given, and whenever the patient feels actual pain during the application it is a positive sign that the operator is applying the current too strongly; that he is applying it to the part too long; or that he is applying it improperly. Electricity thus generally gives warning before any serious harm can be done by it. It is a great mistake to suppose as even many physicians do seem to suppose, that increased benefit may be derived from increased power beyond a certain point. The same principle holds good in applying Electricity as in administering a drug; increasing the required dose does not increase the benefit, but may frequently result in serious harm. So far, therefore, from the application of Electricity being painful or disagreeable, as is popularly supposed by those who have never experienced it, or whose only experience is derived from the "shocks" they received, in the way of experiment, it is on the contrary, rather agreeable, and more particularly with the constant current, decidedly soothing and refreshing.

No general rules as to the time, length and manner of application, can be safely laid down. We will not, therefore, presume to give directions for the application of Electricity in disease, because to give specific directions would require a large volume, while to give general directions might occasionally result in more harm than good. It requires as thorough a knowledge of the Practice of Medicine to apply Electricity *successfully* as it does to prescribe ordinary medical remedies, and no one, physician or layman, should attempt to apply it without having the necessary technical education of the properties and effects of Electricity, or without reference to standard Electro-Medical works upon the subject. It may be safely asserted, that in the great majority of cases where Electricity has failed (?) to effect relief or cure, it has *failed* only because it was improperly applied through the ignorance or inexperience of the person applying it. It must not be inferred from this, however, that we wish it to

be understood that the employment of Electricity is either difficult or dangerous; on the contrary, it is very simple, and even in the hands of the inexperienced, comparatively free from danger. But we have an abiding faith in the value and beneficence of Electricity in the treatment of disease—a faith developed by years of personal experience and observation, and strengthened by the experience of the thousands of physicians, at home and abroad, who have employed it with the most brilliant success in the innumerable cases in which it is now applied—and deeply deplore anything that brings that all-powerful agent into undeserved disfavor. While it would be to our interest as manufacturers to have a Medical Battery in every household in the country, we deem it a simple duty in the cause of Electro-Medical Science and for the good of humanity, to utter a word of warning against the wholesale and indiscriminate use of Electricity by those who are not qualified to properly apply it; and those parties who make Batteries merely “to sell,” enclosing circulars giving brief “Directions for the treatment of all the ills that flesh is heir to,” and making “Every Man His Own Physician,” cannot be too severely condemned, for thus being the cause of the harm that too-confiding purchasers may occasionally inflict upon themselves, or more frequently their utter failure to accomplish any perceptible result, and the blame of the failure or harm be ascribed to the Electricity itself, instead of to its misapplication. For ourselves, personally, we would much prefer not to have our Batteries used at all than to have their reputation, and Electro-Medical Science in general injured at the hands of the ignorant and the incompetent.

It is true that electricity will *not* cure *everything*, but it is quite as true that it *will* relieve or cure *most* of the ills we suffer; will be found beneficial in more cases than any other three remedies together, and, as already stated, in the great majority of cases where it has failed, its failure was due chiefly, if not wholly, to its misapplication. It is for the foregoing reasons, therefore, that we warn all persons not to apply Electricity without first obtaining the necessary instructions from a qualified physician or a reliable Electro-Medical work. Let the patient obtain a correct diagnosis of his case (upon which the success of the after treatment depends,) and learn the proper method of treatment for that particular case, and he can then “doctor” himself with safety and with every prospect of success.



# INTERNATIONAL EXHIBITION,

PHILADELPHIA,

1876.



The United States Centennial Commission has examined the Report of the Judges, and accepted the following reasons, and decreed an award in conformity therewith.

Philadelphia, February 26th, 1878.

## Report on Awards.

### PRODUCT, GALVANIC APPARATUS.

NAME AND ADDRESS OF EXHIBITOR, FLEMMING & TALBOT, PHILADELPHIA, PA.

The undersigned, having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for Award, for the following reasons, viz:—

For the good construction of the large and of transportable Galvanic Batteries; for the simplicity of construction of Induction Apparatus; for the elegance and excellent workmanship of the whole exhibit.

DR. ERNST VON FLEISHEL, *Judge.*

### APPROVAL OF GRAND JUDGES.

W. ROTH, M.D., Surgeon General, Saxony, German Army.

J. H. THOMPSON, A.M., M.D.

C. B. WHITE.

A true copy of the record.

FRANCIS A. WALKER,

*Chief of the Bureau of Awards.*

Given by authority of the United States Centennial Commission.

A. T. GOSHORN,

*Director-General.*

L. CAMPBELL,

*Secretary.*

J. R. HAWLEY,

*President.*



# GENERAL AGENTS.

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## NEW YORK:

JOHN REYNDERS & CO., 309 Fourth Avenue.

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## BOSTON:

LEACH & GREENE, 1 Hamilton Place.

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## BALTIMORE:

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## CHICAGO:

SHARP & SMITH, 100 Randolph Street.

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## CINCINNATI:

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## ST. LOUIS:

A. M. LESLIE & CO., 319 N. Fifth Street.

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## SAN FRANCISCO:

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## NEW ORLEANS:

I. L. LYON, 42 & 44 Camp Street.

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## CHARLESTON:

C. F. PANKNIN, 123 Meeting Street.

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F. GROSS, 688 & 690 Craig Street.